## **ABSTRACT**

A strategy for semiautomatic sequencing of argentinated (silver-containing) oligopeptides is described. The method of sequencing described is based on a search algorithm that identifies a triplet peak relationship in a product ion spectrum of the [M + Ag]+ ion of an oligopeptide. The ions that constitute a triplet are  $[b_n + OH + Ag]^+$ ,  $[b_n - OH + Ag]^+$  $\mathrm{H}+\mathrm{Ag}]^+$  , and  $[\mathrm{a}_n$  -  $\mathrm{H}+\mathrm{Ag}]^+$  , which are separated by 18 and 28 m/z units, respectively. The difference in the m/z values of adjacent triplets identifies the residue that is "cleaved". Observation of the  $[y_n + H + Ag]^+$  ion containing the cleaved residue confirms the assignment.

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